

Chapter 5

RESOURCE REGULATION

There are several programs that the District, as well as federal, state, and local governments may implement to protect water resources. The District's programs include permitting for both wetland protection and water resource allocation, and water shortage management. In addition, there are special agreements unique to the Kissimmee Basin that the District shares with the Seminole Tribe and other water management districts.

The U.S. Environmental Protection Agency (USEPA), through the reauthorization of the Safe Drinking Water Act, state agencies, through enacting administrative rules, and local governments, through implementing wellhead protection ordinances, strive to prevent ground water contamination. Of particular import to the Kissimmee Basin are the wellhead protection ordinances of the counties and cities in the region.

ENVIRONMENTAL RESOURCE PERMITTING

The Environmental Resource Permitting (ERP) Program deals with the construction of surface water management systems and dredge and fill activities. Surface water management systems are required for all forms of development ranging from agriculture to commercial and residential. This means that developed sites containing more impervious surfaces or altered topography, must provide a way for storm water to be directed to water management areas for water quality treatment and flood attenuation.

During the ERP process, wetlands are evaluated both on and adjacent to the project site. If wetland impacts are proposed in an ERP application, an analysis is conducted to determine if the impacts can be eliminated or reduced. Impacts to wetlands can occur through direct physical alteration, such as filling or dredging, or through alteration of the normal hydrologic regimes, such as lowering of the water table. All types of impacts are reviewed during the ERP process.

If the proposed wetland impacts are determined to be permissible, an applicant will need to provide compensation for the loss of the wetland functions. Generally this is accomplished through mitigation, consisting of the restoration or enhancement of existing wetlands, the creation of new wetland habitat, or a combination of these methods. The mitigation areas must be monitored and maintained over the long-term and protected with a conservation easement.

If the applicant proposes to preserve the wetlands on the project site, an analysis is conducted to determine what effects the development will have on the wetlands. An applicant must provide an upland buffer, must ensure that adequate quantities of water will be available to wetlands and that the wetlands will not be over inundated for prolonged periods of time. A conservation easement is required to ensure the long-term protection of the wetlands.

CONSUMPTIVE USE PERMITTING

The District has the authority and responsibility to establish policies for the use and regulation of water that maximize reasonable-beneficial uses that are in the public interest, as long as these policies safeguard the environment, other legal users, and water resources. These policies are implemented through intergovernmental coordination, establishment of programs, and the permitting process.

Water resources are used for many purposes including agricultural, landscape, and golf course irrigation; potable water; commercial; and industrial uses. All water withdrawals within the District require a District water use permit except: (1) water used in a single family dwelling or duplex, and provided that the water is obtained from one well for each single family dwelling or duplex, and is used either for domestic purposes or outdoor uses; (2) water used for fire fighting; and (3) the use of reclaimed water. The first exemption is provided in state legislation; the latter two are District exemptions.

The District issues water use permits in two forms, individual water use permits and general water use permits. An individual water use permit is issued for projects whose water use exceeds 100,000 gallons per day (GPD), while general permits are issued when the use does not exceed 100,000 GPD, except in reduced threshold areas. A general water use permit is issued for a duration of up to 20 years while individual permits are generally issued for a shorter period. Individual permits are issued with an expiration date that corresponds with the basin expiration date, at which time water use permits for the entire Kissimmee Basin will have to be renewed. The current basin expiration date in the Kissimmee Basin (KB) Planning Area is December 15, 2001.

The District has issued 477 individual consumptive use permits in the KB Planning Area (**Table 12**). Most of these permits are for agricultural uses.

Table 12. Individual Permit Allocations.

County	Agriculture ^a		Public Water Supply		Recreation ^b		Industrial		Dewatering	
	# permits	Alloc. (MGY)	# permits	Alloc. (MGY)	# permits	Alloc. (MGY)	# permits	Alloc. (MGY)	# permits	Alloc. (MGY)
Glades	18	45,884	0	0	0	0	0	0	0	0
Highlands	128	103,916	2	154	2	228	1	361	0	0
Okeechobee	58	21,812	4	1,160	2	131	0	0	4	1,427
Orange	67	5,405	7	57,414	24	3,517	4	1,163	6	1,990
Osceola	101	18,874	13	15,336	6	428	1	75	4	696
Polk	17	2,254	4	731	4	256	0	0	0	0
Total	389	198,145	30	74,795	38	4,560	6	1,599	14	4,113

a. Includes agriculture, aquaculture, livestock, and nursery.

b. Includes golf courses and landscape.

Source: April 1999 consumptive use permitting data.

Basis of Review Criteria

The permitting process involves reviewing water use permits for consistency with criteria in the District's Basis of Review (BOR). Chapter 2 of the BOR, Water Need and Demand Methodologies, include criteria for demonstration of need, calculation of water demands, and water conservation requirements for the different use classes. The criteria in Chapter 3 of the BOR, Water Resource Evaluations, address the evaluation of the potential impacts to the resource, existing legal users, the environment, saline water intrusion, and movement of pollution (SFWMD, 1994).

Due to the predominant utilization of the Floridan aquifer in the KB Planning Area, the potential for significant resource impacts resulting from the withdrawals of most water uses is generally considered to be minimal. However, some uses are restricted due to their location in high sinkhole prone areas, or because of the potential to cause regional saline water movement, impact spring flow, or result in adverse environmental impacts.

Areas with Increased Permitting Restrictions

An increased level of consumptive use permitting restrictions is applied to areas where there is potentially a lack of water available to meet demands. These areas include Reduced Threshold Areas, Restricted Allocation Areas, Areas of Special Concern, and Critical Water Supply Problem Areas. Limited portions of the KB Planning Area are included in these areas.

Reduced Threshold Areas

The volume of usage which delineates a general permit from an individual permit is referred to as the permit threshold. In most of the District, the permit threshold is 100,000 GPD. However, in resource depleted areas, where there has been a history of saline water movement into ground water and surface water bodies or the lack of water availability to meet projected needs of a region, the District has reduced this threshold to 10,000 GPD average or 20,000 GPD maximum. These areas are referred to as Reduced Threshold Areas (RTAs). No RTAs have been established in the KB Planning Area.

Restricted Allocation Areas

In addition to RTAs, the District has also designated areas as Restricted Allocation Areas (RAAs). These are designated areas within the District for which allocation restrictions are applied to the use of specific water sources. The water resources in these areas are managed in response to specific sources of surface water and ground water for which there is a lack of water availability to meet the needs of the region. The area to the southeast of Lake Istokpoga and to the northwest of Lake Okeechobee (**Figure 8**) is the only restricted allocation area in the KB Planning Area, as identified in the District's BOR for Water Use Permit Applications. This area has received this designation due to a history of water shortage in the area, indicating a limit on the availability of surface water from Lake Istokpoga to meet all of the demands of the Indian Prairie Agricultural Area.

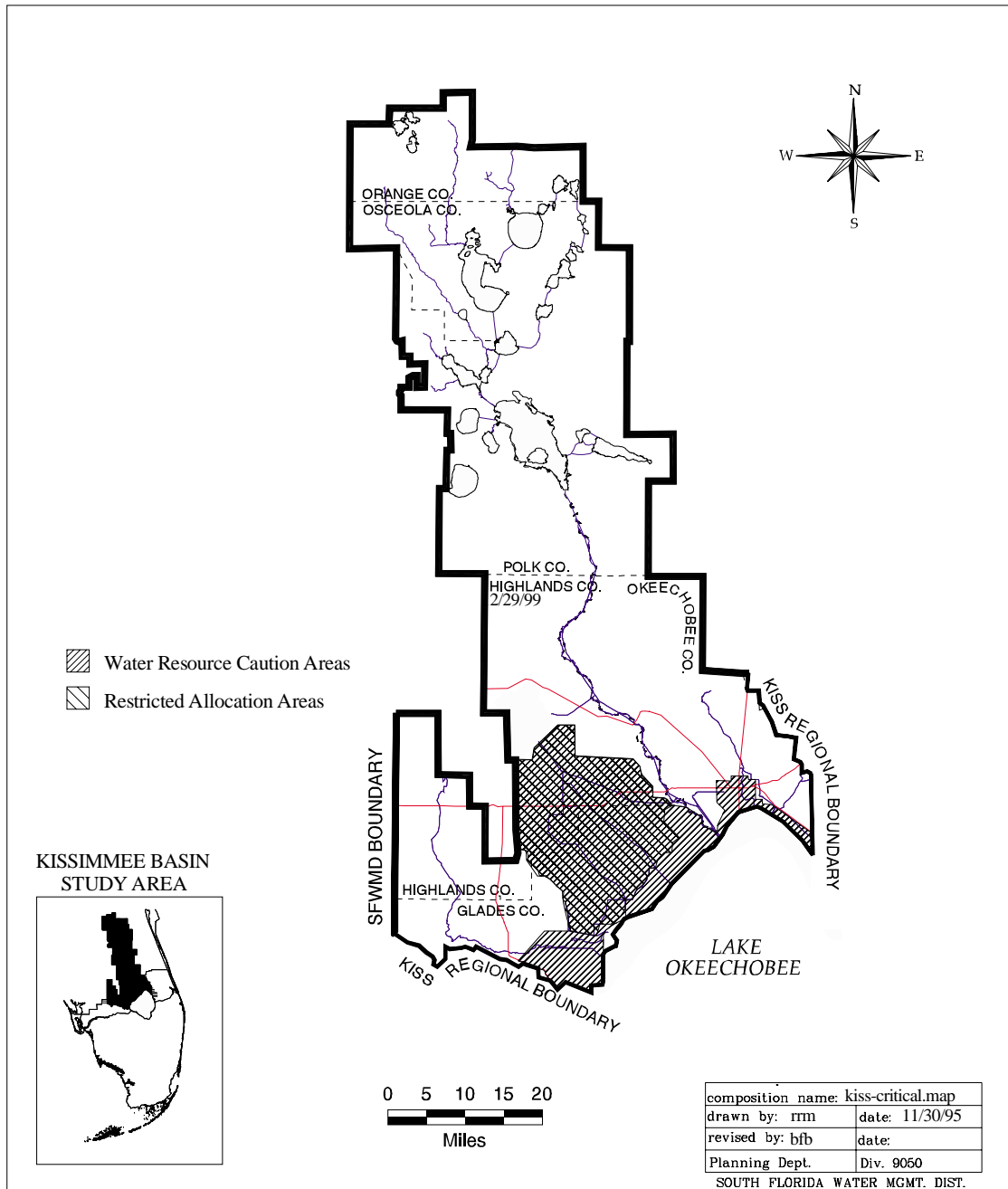


Figure 8. Consumptive Use Permitting Specially Designated Areas.

Areas of Special Concern

Areas of Special Concern are areas where there are limitations on water availability or there are other potentially adverse impacts associated with a proposed withdrawal. These areas are determined by the District on a case-by-case basis. There are no designated areas of special concern in the KB Planning Area.

Water Resource Caution Areas

Water Resource Caution Areas (WRCAs) are areas that have existing water resource problems or areas in which water resource problems are projected to develop during the next 20 years. These areas were formerly referred to as critical water supply problem areas and were required to be designated by rule by each water management district pursuant to Chapter 62-40, F.A.C., the Water Resource Implementation Rule. This chapter further states that applicants withdrawing from areas designated as Critical Water Supply Problem Areas must make use of a reclaimed water source unless the applicant demonstrates that its use is not economically, environmentally or technologically feasible. The area to the southeast of Lake Istokpoga and to the northwest of Lake Okeechobee, and a coastal strip adjacent to Lake Okeechobee are designated as Water Resource Caution Areas within the KB Planning Area in Chapter 40E-23, F.A.C. (**Figure 8**). The Water Resource Implementation Rule requires that these designations be updated within one year of completion of the District Water Management Plan and its future updates.

WATER SHORTAGE MANAGEMENT

Water shortages, and the associated restrictions, are declared by the District's Governing Board when there is not enough water available for present or anticipated needs, or when a reduction in demand is needed to protect water resources. Ground water and surface water levels are continuously monitored, and if they fall to levels considered critical for the time of year and anticipated demands, then the water shortage process is initiated. There are different levels of drought, and these require corresponding levels of restrictions. Water shortage declarations range from a "warning," which has voluntary moderate restrictions, through four phases of water shortage, to an "emergency," which can restrict withdrawals up to the point of disallowing any further withdrawals from a source.

The water shortage phases reflect the percent reduction in withdrawals necessary to reduce demand to the anticipated available water supply.

The phases are as follows:

- Phase I: Moderate - up to 15 percent reduction
- Phase II: Severe - up to 30 percent reduction
- Phase III: Extreme - up to 45 percent reduction
- Phase IV: Critical - up to 60 percent reduction

Each declared source class is assigned a water shortage phase, and source classes can be combined if appropriate. A water shortage warning has the same restrictions associated with a Phase I, but participation is voluntary. Any of the phases of water shortage can be modified by the Governing Board if necessary. The District's Water Shortage Plan is located in Chapter 40E-21, F.A.C. The current water shortage procedure was originally adopted by the District in 1982. Prior to that, restrictions were made during periods of drought but did not necessarily correspond to the current requirements of the phases of water shortage.

In June 1985, a Phase I water shortage was declared in the Lake Istokpoga-Indian Prairie Water Use Basin area of the KB Planning Area for both ground and surface water, and restrictions were in place through August of that year (**Table 13**). Another drought in the region resulted in a water shortage warning with voluntary Phase I restrictions on surface water withdrawals for that same region for August through November 1987.

Table 13. History of Water Shortages.

Year	Order #	Restrictions	Area Affected	Date Declared	Date Rescinded
1985	85-4	Phase I: Ground and surface water	Lake Istokpoga-Indian Prairie Water Use Basin	6-13-85	8-8-85
1987	87-4	Warning: Voluntary phase I -- surface water	Lake Istokpoga-Indian Prairie Water Use Basin	8-17-87	11-10-87

INTERGOVERNMENTAL AGREEMENTS

Intergovernmental agreements are critical to the success of a coordinated planning effort. Two existing intergovernmental agreements in the KB Planning Area that facilitate coordination between the SFWMD and other entities are the Memorandum of Understanding between the SFWMD, SJRWMD, and SWFWMD; and the agreement between the SFWMD and Seminole Tribe.

Memorandum of Understanding

In order to improve coordination between the SFWMD, SJRWMD, and SWFWMD in the Central Florida area, staff from the three districts have developed a Memorandum Of Understanding (MOU). The MOU includes agreements on coordination in water resource investigation, water resource planning, water resource regulation, and water shortage declarations. A copy of the MOU is presented in Appendix A.

The water resource investigation portion of the MOU outlines agreements for the three districts to coordinate in the collection and sharing of hydrologic, geologic, and

water use permit information; GIS coverages; and the development of ground water models.

The water resource planning portion of the MOU outlines agreements for the three districts to coordinate and be consistent in water demand projection methodology and demand projection numbers; population projection sources and population projection numbers; ground water model runs; identification, funding, and implementation of alternative water supply strategies; review of comprehensive plan amendments; and the provision of technical assistance to local governments.

The water resource regulation portion of the MOU outlines agreements for the three districts to coordinate applicant information for proposed uses of the Floridan aquifer. The reviewing district will provide the other district with copies of water use permit applications, support information, and correspondence, and will incorporate the other districts comments into its permit review process.

In order to ensure the orderly administration of this MOU, the water management districts will: (1) designate one position each, for water resource investigation, water resource planning, and water resource regulation, to oversee the administration of this MOU; (2) meet in April and October of each year to assess compliance with this MOU and its effectiveness in achieving the stated purposes and goals; and (3) individually and jointly seek to obtain the funding from the governing boards needed to implement this agreement and to achieve the stated goals.

Seminole Tribe Agreement

The Seminole Tribe of Florida, the State of Florida and the District executed a Water Rights Compact in 1987. The Compact provides a framework for harmonizing the relationship between the Tribe, Florida, and the District on issues concerning the water resource. Of particular import to this Plan are the Compact provisions concerning the Tribe's Brighton Reservation water entitlement and the Work Plan process which addresses the process through which the Tribe perfects water rights. The Tribe's Brighton Reservation water entitlement was further detailed in an Agreement which was executed by the Tribe and District in November 1992 after publication of a District technical report. This Agreement outlines surface water control strategies to assure maximum reliability of delivering the 15 percent water entitlement set forth in the Compact for the Brighton Reservation. The Agreement also outlines the schedule of releases from Lake Istokpoga and operation schedules for the pumps at S-71 and S-72. A copy of this Agreement is presented in Appendix A.

WELLHEAD PROTECTION ORDINANCES

The purpose of a wellhead protection program is to protect the ground water in the vicinity of a public water supply wellfield from potential sources of contamination. A wellhead protection program entails a management process that acknowledges the relationship between activities that take place in wellfield areas and the quality of the

ground water supply for those wells. A Wellhead Protection Area (WHPA) is delineated as the surface area, projected from the subsurface, surrounding a well or wellfield through which water (and potential contaminants) will pass and eventually reach the well(s).

Wellhead protection area boundaries (zones) are determined based on a variety of criteria (e.g., travel time, drawdown, distance, etc.) and methods (e.g., analytical/numerical flow models, fixed radii, etc.). Factors such as the such as the aquifer physical characteristics, aquifer boundaries, the extent of pumping, the degree of confinement, the vulnerability of the aquifer to surface contamination, and the degree of development and land use activity surrounding the well(s) are used in the process. Because methods/criteria employed and physical conditions vary, WHPAs can range anywhere from a distance of a few hundred feet to several miles from pumping wells. Management activities commonly employed within these protection areas include regulation of land use through special ordinances and permits, prohibition of specified activities, and acquisition of land.

Wellhead protection efforts include federal, state and local laws and ordinances. These efforts focus on protecting public water supply wellfields from activities that present a possible contamination threat.

Federal Aquifer Protection

The first cohesive federal effort aimed at aquifer protection came in 1984, when the USEPA published its Ground Water Protection Strategy. This strategy recognized the need to prevent future ground water contamination and emphasized the protection of public water supply aquifers or those linked to unique ecosystems. As a result of this approach, federal provisions focused specifically at public water supply well protection, were adopted as part of the reauthorization of the Safe Drinking Water Act (SDWA) in 1986. This legislation established a nationwide policy to encourage states to develop systematic and comprehensive wellhead protection programs to protect public water supply areas from all man-made sources of contamination, which may cause or contribute to adverse health effects.

State, County, and City Wellhead Protection

State agencies, such as the FDEP, the Florida Department of Health (FDOH), the Department of Agriculture and Consumer Services (FDACS), and the water management districts have enacted a series of administrative rules directed towards aquifer protection. The FDEP has a number of regulations under the Florida Administrative Code which function to regulate activities, such as hazardous and solid waste, storm water discharge, storage tank systems, etc. The primary goal of these legislative policies, aimed at aquifer protection, is to prevent problems before they occur as contrasted to correcting or providing remedial action for pre-existing problems.

Four of the six counties in the KB Planning Area have some form of wellhead protection (**Table 14**). Highlands and Okeechobee counties have permanent wellhead protection ordinances, while Orange County has an interim wellhead protection

ordinance. Polk County provides for wellhead protection in its Comprehensive Plan; the county plans to include wellhead protection in its future Land Development Codes. The cities of Kissimmee and St. Cloud, within Osceola County, provide for wellhead protection within their Land Development Codes. FDEP has a wellhead protection rule (Chapter 62-521, F.A.C.).

Table 14. Status of Wellhead Protection Ordinances.

Agency, City, County	Information Source Code	Status (as of April 1999)
FDEP	a	Waiting for approval by USEPA
Glades County	b	None
Highlands County	c	Ordinance
Okeechobee County	d	Ordinance
Osceola County	e	None
City of Kissimmee	f	Wellhead Protection in Land Development Code
City of St. Cloud	g	Wellhead Protection in Land Development Code
Orange County	h	Interim Ordinance
City of Orlando	i	None
Polk County	j	Wellhead Protection in Comprehensive Plan; will be included in Land Development Code in future

- a. FDEP (Kara Daily).
- b. Administration, Glades County (Mrs. Stafford).
- c. Planning Dept., Highlands County (Duane Neiderman).
- d. County Attorney Office, Okeechobee County (John Cassels).
- e. Clerk of Board of County Commissioners, Osceola County (Rita Nacey).
- f. Planning Dept., city of Kissimmee (Barry Campbell).
- g. Planning Dept., city of St. Cloud (Eric Peterson).
- h. Planning Dept., Orange County (Bryon Kellenberger).
- i. Planning Dept., city of Orlando (Scott Baker).
- j. County Attorney Office, Polk County (Mark Carpanini).

The intent of these ordinances is to protect and safeguard the health, safety, and welfare of the public by providing criteria for regulating and prohibiting the use, handling, production and storage of certain harmful substances which may impair present and future public water supply wells and wellfields.

